DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT Housing - Federal Housing Commissioner

STRUCTURAL ENGINEERING BULLETIN NO. 1104 Rev. 4 (Supersedes issue dated September 19, 2000)

TO: DIRECTORS, SINGLE FAMILY HOCS DIRECTORS, MULTIFAMILY HUBS

ISSUE DATE June 7, 2004

REVIEW DATE
June 7, 2007

SUBJECT:

1. Item Description

R-Control Structural Insulated Panels (SIPs)

2. Name and address of Manufacturer

AFM Corporation 211 River Ridge Cir. #102 Burnsville, MN 55337

This Structural Engineering Bulletin (SEB) should be filed with other SEBs and related Bulletins on materials or products as required by prescribed procedures.

The technical description, requirements and limitations expressed herein do not constitute an endorsement or approval by the Department of housing and Urban Development (HUD) of the subject matter, and any statement or representation, however made, indicating approval or endorsement by HUD is unauthorized and false, and will be considered a violation of the United States Criminal Code, 18 U.S.C. 709.

NOTICE: THIS BULLETIN APPLIES TO DWELLING UNITS BUILT UNDER HUD HOUSING PROGRAMS. NON-HUD-INSURED UNITS MAY OR MAY NOT BE IN CONFORMINTY WITH THE REQUIREMENTS OF THE HUD MINIMUM PROPERTY STANDARDS.

Any reproduction of this Bulletin must be in its entirety and any use of all or any part of this Bulletin in sales promotion or advertising is prohibited.

1. General:

This Bulletin sets forth specific requirements under the Technical Suitability of Products Program for determining the eligibility of housing to be constructed under HUD mortgage insurance, or other HUD housing programs.

2. Scope:

This Bulletin applies only to the structural features of this method of construction. Final determination of eligibility is made by the appropriate HUD Field Office. Other factors considered by the Field Office will be valuation, location, architectural planning and appeal, mechanical equipment, thermal characteristics, and market acceptance. Consideration is also necessary to determine whether a specific property will qualify under the specific HUD program, when constructed according to the method outlined in this Bulletin, and where the structure is to be located.

In geographical areas subject to hurricanes, earthquakes, or other severe conditions affecting dwelling structures, the HUD Field Office or Homeownership Center shall require additional safeguards in proposed designs, when necessary.

3. Minimum Property Standards (MPS):

Compliance with HUD MPS will be determined by the HUD Field Office or Homeownership Center on the same basis as submissions involving conventional construction, except for the special features described in this Bulletin.

4. Inspection:

Field compliance inspections covering conventional items of construction and any special features covered in this Bulletin shall be made in accordance with prescribed procedures.

The appropriate HUD Field Office or Homeownership Center shall furnish a copy of a HUD field inspection report to Headquarters, FHA Standards, Office of Manufactured Housing Programs, when there is:

- a. Evidence of noncompliance with portions of the system of construction described in this Bulletin.
- b. Faulty shop fabricated, including significant surface defects.
- c. Damage to shop fabricated items or materials due to improper transportation, storage, handling, or assembly.
- d. Unsatisfactory field workmanship or performance of the product or system.
- e. Any significant degradation or deterioration of the product or evidence of lack of durability or performance.

Periodic plant inspections will be made by HUD designated representatives in accordance with their prescribed procedures. Factory inspection reports shall be submitted to HUD Headquarters, upon request.

5. Certification:

The manufacturer named in this Bulletin shall furnish the builder with a written certification stating that the product has been manufactured in compliance with the HUD Minimum Property Standards (MPS), except as modified by this Bulletin. The builder shall endorse the certification with a statement that the product has been erected in compliance with HUD MPS except as modified by this Bulletin, and that the manufacturer's certification does not relieve the builder, in any way, of the responsibility under the terms of the Builder's Warranty required by the National Housing Act, or under any provisions applicable to any other housing program. This certification shall be furnished to the HUD Field Office upon completion of the property.

OUTLINE DESCRIPTION, CATEGORY II CONSTRUCTION:

GENERAL:

Shop fabricated structural insulated roof, wall, and floor panels for one-, two- and three-story dwellings are furnished in this method of construction. Panels consist of oriented strand board (OSB) skins and expanded polystyrene (EPS) foam cores. Panels are transported to the building site where they are connected together.

Conventional construction may include various types of interior and exterior finish materials. All materials and methods of installation shall be in accordance with the manufacturers published installation instructions, HUD Minimum Property Standards, Use of Materials Bulletin (UM), and Materials Releases (MR), except as may be specifically noted herein. Plumbing, heating and electrical systems are shop installed and field connected.

This Bulletin is based on a structural review of AFM R-Control structural insulated panels for one-, two- and three-story dwellings. Foundation design and nonstructural items (such as architectural, plumbing, heating and electrical features) are not covered by this Bulletin.

SPECIFICATIONS:

Form HUD-92005, "Description of Materials" specifying only the structurally related items (Nos. 1 to 12, 14, 26 and 27), as originally submitted for determination of technical suitability, describes the materials that shall be used in construction of housing units under this system of construction.

DRAWINGS:

The following drawings by AFM Corporation shall be considered an integral part of this Bulletin:

Drawing No.	<u>Date</u>	Description
SIP-101	12/1/99	Plate Connections
SIP-102	5/1/99	Spline Connection Surface Spline
SIP-102a	6/1/02	Spline Connection Engineered Wood
SIP-102b	6/1/02	Spline Connection I-Beam Spline Connection
SIP-102c	6/1/02	Spline Connection Insulated I-Beam Spline
SIP-102d	6/1/02	Spline Connection Double 2x
SIP-102e	5/1/99	Spline Connection Surface Spline Top Side Only
SIP-102f	5/1/99	Mega Spline Connection
SIP-102g	5/1/99	Block Spline Connection
SIP-103	5/1/99	Corner Connection
SIP-103a	5/1/99	Corner Connection
SIP-103b	5/1/99	Angled Corner Connection
SIP-104	5/1/99	Slab Foundation Framing
SIP-104a	5/1/99	Slab Foundation Framing
SIP-105	5/1/99	Foundation Framing-Joist
SIP-105a	5/1/99	Foundation Framing-Joist

Drawing No.	<u>Date</u>	Description
SIP-105b	5/1/99	Foundation Framing-Panel
SIP-105c	5/1/99	Foundation Framing-Brick Ledge
SIP-106	5/1/99	Foundation Framing-Truss
SIP-107	5/1/99	Knee Wall Framing
SIP-107a	5/1/99	Knee Wall Framing
SIP-108	6/1/02	Floor/Roof Panel Connection
SIP-108a	6/1/02	Floor/Roof Panel Connection
SIP-108b	6/1/02	Floor/Roof Panel Connection
SIP-109	5/1/99	Bearing on Wall Panel
SIP-109a	5/1/99	Floor Truss Bearing on Wall Panel
SIP-109b	5/1/99	Floor Panel on Wall Panel
SIP-109c	5/1/99	Floor Joist Hanger and Wall Panel
SIP-110	5/1/99	Floor Joist Hanger and Ledger Beam
SIP-110a	5/1/99	Floor Panel and Ledger Beam
SIP-111	5/1/99	Interior Wall Connection
SIP-112	5/1/99	Headers
SIP-112a	5/1/99	Component Window Assembly
SIP-112b	5/1/99	Component Window Assembly
SIP-112c	5/1/99	Header Detail
SIP-113	5/1/99	Header Sections
SIP-113a	5/1/99	Header Sections (Insulated Header)
SIP-113b	5/1/99	Header Sections (Built Up 2x's)
SIP-114	5/1/99	SIP Used as Header (Surface Spline Condition)
SIP-115	5/1/99	Openings in Panels
SIP-116	5/1/99	Window Detail
SIP-117	5/1/99	Door Detail
SIP-118	5/1/99	Roof Framing Options
SIP-118a	5/1/99	Roof Framing-Cantilever
SIP-119	5/1/99	Roof Eave Built Up-Ladder Framed
SIP-119a	5/1/99	Roof Eave Plumb Cut-Cant Panel
SIP-119b	5/1/99	Roof Eave Square Cut-Cant Panel
SIP-119c	5/1/99	Roof Gable Built Up-Ladder Framed
SIP-119d	5/1/99	Roof Gable Square Cut-Cant Panel
SIP-120	5/1/99	Roof Valley-Plumb Cut
SIP-121	5/1/99	Roof Ridge-Plumb Cut
SIP-121a	5/1/99	Roof Ridge-Square Cut
SIP-121b	5/1/99	Roof Ridge Plumb Cut/Cantilever Ridge
SIP-122	5/1/99	Beveled Wall Panel
SIP-122a	5/1/99	Beveled 2x Blocking
SIP-122b	5/1/99	Beveled Wedge Blocking
SIP-122c	5/1/99	Gable End
SIP-123	5/1/99	Ceiling Fan Attachment
SIP-124	5/1/99	Truss Bearing on Wall Panel
SIP-125	5/1/99	Ceiling Panels and Truss
SIP-125a	5/1/99	Ceiling Panels and Rafter
SIP-126	5/1/99	Roof Openings
SIP-126a	5/1/99	Roof Penetrations
SIP-127	5/1/99	Cold Roof Eave with Vented R-Control SpecLam

Drawing No.	<u>Date</u>	Description
SIP-127a	5/1/99	Cold Roof Eave with 2x Sleepers
SIP-127b	5/1/99	Cold Roof Ridge
SIP-127c	5/1/99	R-Control SpecLam
SIP-128	5/1/99	Chases-Electrical Intermediate Roof Beam
SIP-128a	5/1/99	Chases-Electrical Roof Ridge Beam
SIP-128b	5/1/99	Chases-Electrical Roof/Wall Intersection
SIP-129	5/1/99	Chases-Electrical Locations in SIPs
SIP-129a	5/1/99	Box for Switch or Outlet
SIP-130	5/1/99	Cabinet Attachment
SIP-131	5/1/99	Base Board
SIP-132	5/1/99	Wall Chase
SIP-132a	5/1/99	Flush Wall Chase
SIP-133	5/1/99	Surface Spline at Truss
SIP-133a	5/1/99	Surface Spline at Dimensional Lumber
SIP-133b	5/1/99	Surface Spline at Steel Joist
SIP-133c	5/1/99	Surface Spline (Top) at Truss
SIP-133d	5/1/99	Surface Spline (Top) at Dimention
SIP-133e	5/1/99	Surface Spline (Top) at Steel Joist
SIP-133f	5/1/99	Surface Spline at Steel Joist
SIP-134	5/1/99	Continuous Panel at Truss
SIP-134a	5/1/99	Continuous Panel at Dimensional Luamber
SIP-134b	5/1/99	Continuous Panel at Steel Joist
SIP-135	5/1/99	Panel Fastening Patters
SIP-136	5/1/99	Post to Concrete Anchorage
SIP-136a	5/1/99	Post to Concrete Anchorage
SIP-137	5/1/99	Post to Post Through Floor
SIP-138	7/1/02	Diaphragm Connections - Splines
SIP-140	6/1/02	Diaphragm Connection - Support Member
SIP-141	6/1/02	Diaphragm Connection - Intermediate Support
SIP-201	5/1/99	Corner Connection
SIP-202	5/1/99	Reentrant Corner Connection
SIP-203	5/1/99	Foundation Framing-Joist
SIP-204	5/1/99	Wall Panel at Timber Frame Floor
SIP-205	5/1/99	Roof Gable Square-Cant Panel
SIP-206	5/1/99	Roof Eave Square-Cant Panel

The Builder shall submit construction drawings to the HUD Office or Homeownership Center with each application under HUD housing programs, which shall include the same or similar structural features shown on the drawings listed above. Copies of these listed drawings shall also be furnished to the HUD Field Office or Homeownership Center by the Builder upon request.

SPECIAL CONSTRUCTION FEATURES:

General: The AFM R-Control Structural Insulated Panels vary in size from 8' to 24' in length, and from 8' to 10' in height (10' high panels are limited to 8' widths). Panel core thicknesses range from 3 ½" through 11 ¼". The facing thickness of the OSB is 7/16" minimum. Panels can be used individually or may be connected to form larger sections and assemblies.

<u>Facings</u>, Foam Core and Adhesive: Panels consist of two layers of OSB facing. The OSB facings must bear a stamp indicating compliance with DOC PS2-92 (Performance Standard for Wood-Based Structural-Use Panels). The expanded polystyrene (EPS) core material is nominal 0.95 pcf density, modified polystyrene insulation board in accordance with ASTM C 578-01 and AFM/UL certified. Skins shall be bonded to the foam cores with a high-quality structural adhesive listed in the AFM Quality Control Manual.

<u>Field Assembly</u>: Each structure built using R-Control® Structural Insulated Panels shall be designed by a registered design professional. Drawings shall be provided that bear the design professional's registered stamp or seal. Such drawings shall contain specific instructions with regard to connections, erection, and installation of the panels, and shall be available at all times during installation.

The R-Control® Structural Insulated Panels are connected to each other at the panel edges through the use of splines. The splines are field-coated with Do-All-Ply sealant and fastened with 8d box nails at 6 inches on center, or an equal approved by AFM.

The top and bottom plates of the panel are dimensional wood plates sized to match the core thickness and installed with Do-All-Ply sealant and fastened with 8d box nails at 6 inches on center, or an equal approved by AFM. The Do-All-Ply sealant is applied along the base plate prior to the panel placement.

DESIGN AND CONSTRUCTION REQUIREMENTS:

Allowable Structural Loads for Panels

Allowable axial, transverse, racking, header, and diaphragm loads are noted in Tables 1 through 8. For loads greater than those specified in Tables 1 through 6 and Table 7, the specific condition shall be framed by other methods to meet applicable code requirements.

Openings in the wall panels shall be limited to 48 inches in width and to the allowable loads specified in Table 7. For openings greater than 48 inches, loads shall not exceed the those indicated in the header load design chart or shall be framed to meet current requirements

<u>Fire Protection and Interior Finish</u>: The polystyrene foam core shas a flame spread rating of not more than 25, and a smoke development rating of not more than 450 when tested in accordance with ASTM E-84. Panels shall be covered on the interior of the building by an approved 15-minute thermal barrier.

Exterior Finish:

The exterior of the wall panels shall be covered with an exterior wall covering acceptable to AFM R-Control and in compliance with the Minimum Property Standards.

<u>Framing of Load bearing Walls</u>: Wood-to-wood connections shall be provided between bearing walls and roof-ceiling or floor construction. Floor covering, including carpeting and vinyl tile, shall not be continued under load bearing walls.

Roof Construction: Roof framing and coverings shall be constructed to comply with the Minimum Property Standards. Roofs with hot-asphalt or hot-coal tar pitch are prohibited.

Table 1 – Wall Axial Loading (lbs)

		7/16" OSE	3 Thickness			
	Panel Height	EPS Core Thickness				
		3 1/2" Core	5 1/2 " Core			
	8'	2750	4000			
	10'	2500	3500			
Axial Load ¹ (plf)	12'	2000	3000			
-	14'	_	2750			
	16'	_	2500			

Notes:

- 1. Maximum allowable axial load is limited to the loads tabulated for axial condition alone.
- 2. Values based on a maximum height-to-width ratio of $3 \frac{1}{2}$ to 1.
- 3. See plate connection detail SIP-101.

Table 2 – Shear Loading

	Demol Heliaha	7/16" OSB Thickness EPS Core Thickness					
	Panel Height						
		3 ½" Core	5 1/2 " Core				
Racking Shear	NA	335 plf	335 plf				

Note:

Vertical boundaries (shear walls) require double studs.

Table 3 – Transverse Loading (psf) with minimum 7/16" OSB Splines

Roof and W	all an							7/16"	OSB Th	ickness						
Floor Panel			EPS Core Thickness													
Floor Fanci	Span		3 ½" Core 5 ½" Core 7 ¼" Core 9 ¼" Core 11 ¼" C									1 ¼" Co	re			
Deflection	n	L/360	L/240	L/180	L/360	L/240	L/180	L/360	L/240	L/180	L/360	L/240	L/180	L/360	L/240	L/180
	4'	65	80	80	89	122	122	92	136	136	107	136	136	104	136	136
T	6'	40	53	53	58	81	81	64	96	96	75	96	96	73	96	96
Transverse	8'	28	40	40	42	61	61	51	76	76	61	76	76	60	76	76
Load (psf)	10'	20	30	32	32	48	49	44	64	64	54	64	64	55	64	64
	12'	15	22	27	26	38	41	40	56	56	51	56	56	55	56	56

Notes:

- 1. Floor panels limited to residential use only.
- 2. Wall panels have 7 ½ inch maximum core thickness.
- 3. See surface spline details SIP-102 and SIP-102g.

Table 4 – Transverse Loading (psf) with double 2x splines

Roof and W	-11					7/	16" OSE	Thickn	ess				
						Е	PS Core	Thickne	ss				
Floor Panel	Span		5 ½" Cor	e		7 ¼" Cor	e	9	1/4" Core	;	1	1 ¼" Co	re
Deflection	n	L/360	L/240	L/180	L/360	L/240	L/180	L/360	L/240	L/180	L/360	L/240	L/180
	10'	53	79	105	89	109	109	150	174	174	177	177	177
	12'	40	59	79	65	91	91	111	145	145	148	148	148
	14'	30	45	60	48	72	78	84	124	124	115	127	127
Transverse	16'	24	35	47	37	55	68	65	98	109	89	111	111
Load (psf)	18'	19	28	37	28	42	57	51	77	97	70	99	99
	20'	15	22	30	22	33	44	41	61	82	56	84	89
	22'	NP	NP	NP	NP	NP	NP	33	49	66	45	68	81
	24'	NP	NP	NP	NP	NP	NP	27	40	54	37	55	74

Notes:

- 1. Roof, wall, and floor panels are framed with continuous doubled nominal 2-inch lumber in the spanning direction, spaced 4 feet on center, and single nominal 2 inch lumber at panel ends. Lumber is minimum spruce fir No. 2 grade. Panels below heavy line require Douglas fir-larch, No. 2 grade lumber.
- 2. Top facing thickness for floor panels is ¾ inch, minimum. As an option, minimum 7/16 inch top facing my be overlaid with a minimum 7/16 inch finish flooring perpendicular to the panels.
- 3. See details SIP-102d and SIP-108

Table 5 – Transverse Loading (psf) with wood I-joist splines

Roof and W	all an				7/16"	OSB Th	ickness			
Floor Panel					EPS (Core Thi	ckness			
riooi ranei	Span	7	7 ¼" Coi	re	9	1/4" Core	•	1	1 ¼" Co	re
Deflection	n -	L/360	L/240	L/180	L/360	L/240	L/180	L/360	L/240	L/180
	10'	81	81	81	118	118	118	131	131	131
	12'	63	68	68	98	98	98	109	109	109
	14'	49	58	58	73	84	84	87	93	93
Transverse	16'	38	51	51	55	74	74	69	82	82
Load (psf)	18'	30	45	45	42	63	65	55	72	72
	20'	24	37	40	33	49	59	45	65	65
	22'	NP	NP	NP	26	39	49	37	55	57
	24'	NP	NP	NP	21	31	41	30	46	48

Notes:

- 1. Panels require continuous wood I-beams installed in the spanning direction spaced 4 feet on center.
- 2. Top facing thickness for floor panels is ¾ inch, minimum. As an option, minimum 7/16 inch top facing my be overlaid with a minimum 7/16 inch finish flooring perpendicular to the panels.
- 3. Wood I joists as approved by AFM.
- 4. See details SIP-102b and 108a.

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Table 6 Transverse	Loading /	mat) muth	aantiniiaiic	inculated	enling basme
Table 6 – Transverse	Loading	DSE EWILL	Communuous	msurateu	SUITILE DEATHS

Roof and W	all an					7/	16" OSB	Thickne	ess				
Floor Panel						Е	PS Core	Thickne	ss				
riooi ranci	Span		5 1/2" Cor	e]	7 ¼" Cor	e	9	1/4" Core	;	1	1 1/4" Co	re
Deflection	n	L/360	L/240	L/180	L/360	L/240	L/180	L/360	L/240	L/180	L/360	L/240	L/180
	10'	76	114	132	101	151	158	117	138	138	149	149	149
	12'	57	79	96	72	109	132	88	115	115	124	124	124
	14'	38	57	70	54	80	107	68	98	98	106	106	106
Transverse	16'	28	42	54	40	61	81	53	80	86	76	93	93
Load (psf)	18'	21	32	42	31	47	62	42	64	64	64	83	83
	20'	16	24	32	24	36	49	34	51	52	50	74	74
	22'	NP	NP	NP	NP	NP	NP	28	42	43	40	60	62
	24'	NP	NP	NP	NP	NP	NP	23	34	36	33	49	52

Notes:

- 1. Panels require continuous insulated spline beams installed in the spanning direction spaced 4 feet on center.
- 2. Top facing thickness for floor panels is ¾ inch, minimum. As an option, minimum 7/16 inch top facing my be overlaid with a minimum 7/16 inch finish flooring perpendicular to the panels.
- 3. Wood I joists as approved by AFM.
- 4. See details SIP-102c and 108b.

Table 7 – Wall Header Loading

					7/16"	OSB Th	ickness				
Header Sp	oan				He	eader De	pth				
			12 inches 18 inches 24 inches								
Deflection	n	L/360	L/240	L/180	L/360	L/240	L/180	L/360	L/240	L/180	
	4'	524	703	708	762	773	773	837	837	837	
Load (plf)	6'	319	374	374	466	466	466	557	557	557	
	8'	218	248	248	351	351	351	455	455	455	

Notes:

- 1. See details SIP-112 and SIP-114.
- 2. Supports and end connections shall be designed for each installation by a registered professional.
- 3. Top and bottom plates shall be Douglas fir No. 2.

Table 8 – Roof/Floor Diaphragm Loading

	Spacing of R-Control Screw fasteners at supported edges (minimum 1 5/8 inch penetration)										
7/16 inch OSB Thickness	3 inches	3 inches 4 inches 6 inches									
	Spacing of spline fasteners (8d box or 6d common) at unsupported edges – top side of panel only – two staggered rows of fasteners on each side of joint										
	3 inches	4 inches	6 inches								
	850 plf	750 plf	500plf								

Note:

- 1. Spline is 7/16 inch OSB x 4".
- 2. See details SIP-139a, SIP-140, and SIP-141.

MANUFACTURING PLANTS:

Shop fabricated structural insulated roof, wall and floor panels covered under this Bulletin will be produced in the following plants:

Advance Foam Plastics, Inc. 748 North McKeever Avenue Azusa, CA 91702	Chapman Building Systems 5275 Highway 27 East Kerrville, TX 78028	Insulated Building Systems 326 McGee Road Winchester, VA 22603
Advance Foam Plastics, Inc 5250 North Sherman Street Denver, CO 80216	Contour Products, Inc. 4001 Kaw Drive Kansas City, KS 66102	Pacific Allied Products, LTD. 91-110 Kaomi Loop Kapolei, HI 96707
Advance Foam Plastics, Inc. 920 Klepp Lane Sparks, NV 89431	Contour Products, Inc. 1418 Cow Palace Road Newton, KS 67114	Poly-Foam, Inc. 116 Pine Street South Lester Prairie, MN 55354
Advance Foam Plastics, Inc. 111 West Fireclay Avenue Murray, UT 84107	Flexible Packaging Co. PO Box 4321 Bayamon, PR 00958	Stanark Foam Plastics 10101 Highway 70 East North Little Rock, AR 72117
Allied Foam Products, Inc. 2731 White Sulphur Road Gainesville, GA 30503	Heartland EPS, Inc. 90 Trowbridge Drive Fond Du Lac, WI 54936	Team Industries, Inc. 4580 Airwest Drive, SE Grand Rapids, MI 49588
Big Sky Insulations, Inc. 15 Arden Drive Belgrade, MT 59714	Heartland EPS, Inc. 809 East 15 th Street Washington, IA 52353	Thermal Foams, Inc. 2324 Franklin Drive Fort Worth, TX 76106
Branch River Foam Plastics 15 Thurber Boulevard	Heartland EPS, Inc. 3751 Sunset Avenue	

The appropriate HUD Field Offices or Homeownership Centers in whose jurisdiction the manufacturing plants are located, or HUD designated representative will inspect respective these plants in accordance with prescribed procedures.

Waukegan IL 60087

QUALITY CONTROL:

Smithfield, RI 02917

The appropriate HUD Field Offices or Homeownership Centers in whose jurisdiction the manufacturing plants are located, shall review and approve plant fabrication procedures and quality control program, to ensure compliance with approved plans and specifications. The quality control program shall include supervision by AFM Corporation or its representative.

RECORD OF PROPERTIES:

When requested, provide the FHA Standards, Office of Manufactured Housing Programs, HUD Headquarters, with a representative list of properties in which the material, product or system has been used, including complete addresses or descriptions of locations and dates of installation.

NOTICE OF CHANGES:

The manufacturer shall inform HUD in advance of changes in production facilities, transportation, field erection procedures, design, or of materials used in this product. Further, the manufacturer must inform HUD of any revision to corporate structure, change of address or change in name or affiliation of the prime manufacturer. Failure of the manufacturer to notify HUD of any of the above changes may result in cancellation of this Bulletin.

EVALUATION:

This SEB shall be valid for a period of three years from the date of initial issuance or most recent renewal or revision, whichever is later. The holder of this SEB shall apply for a renewal or revision 90 days prior to the Review Date printed on this SEB. Submittals for renewal or revision shall be sent to:

US Department of Housing and Urban Development FHA Standards, Office of Manufactured Housing Programs 451 7th Street, SW, Room 9168 Washington, DC 20410-8000

Appropriate User Fees shall be sent to:

Department of Housing and Urban Development Miscellaneous Income-Technical Suitability of Products Fees Bank of America PO Box 198762 Atlanta, GA 30384-8762

The holder of this SEB may apply for revision at any time prior to the Review Date. Minor revisions may be in the form of a supplement.

If the Department determines that a proposed renewal or supplement constitutes a revision, the appropriate User Fee for a revision will need to be submitted in accordance with Code of Federal Regulations 24 CFR 200.934, "User Fee System for the Technical Suitability of Products Program", and current User Fee Schedule.

CANCELLATION:

Failure to apply for a renewal or revision shall constitute a basis for cancellation of the SEB. HUD will notify the manufacturer that the SEB may be canceled when:

- 1. conditions under which the document was issued have changed so as to affect production of, or to compromise the integrity of the accepted material, product, or system,
- 2. the manufacturer has changed its organizational form without notifying HUD, or
- 3. the manufacturer has not complied with responsibilities it assumed as a condition of HUD's acceptance.

However, before cancellation, HUD will give the manufacturer a written notice of the specific reasons for cancellation, and the opportunity to present views on why the SEB should not be canceled. No refund of fees will be made on a canceled document.